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**NAVAL WAR COLLEGE  
Newport, R.I.**



**EFFECTIVE USAF AIR TRAFFIC CONTROL TO SUPPORT PROPOSED  
PHASE IV OPERATIONS**

by

Michael P. Hughes

Lt Col, USAF

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

Signature:

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16 May 2006

Seminar 6 Moderators:

Professor Don Chisholm

Lt Col J. Chesney

## **Abstract**

In order to properly support the Joint Force Commander (JFC) and Joint Force Air Component Commander (JFACC) following major combat operations involving regime change, clear and effective doctrinal guidance must be established for USAF Air Traffic Control (ATC) operations in proposed Phase IV (stability operations). ATC and associated airspace procedures involve many detailed and time consuming issues that must be properly coordinated with both domestic and international aviation agencies in order to “hand back” a safe and effective host nation national airspace system (NAS).

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## **INTRODUCTION**

This paper will examine the need to establish effective guidance to transition USAF Air Traffic Control (ATC) functions from military to civilian control in order to support Phase IV (stability) operations.<sup>1</sup> The need to fully consider the Phase IV construct is critical in meeting the Joint Force Commander's (JFC) objectives by accomplishing the host nation assumption of civilian ATC operations required in proposed Phase V operations.

Analysis is restricted to USAF ATC functions/airspace considerations in a nation invaded for the purposes of regime change (the "you broke it you bought it" scenario). The analysis will consider in a general sense scenarios ranging from one extreme of no significant destruction of critical ATC system infrastructure to the other extreme of devastating destruction requiring significant rebuilding/reconstruction in Phase IV operations. It will not therefore be focused on the military requirements in prior Phase operations leading up to the conflict; which will have already established exclusion zones for the airspace and have been detailed in a Notice To Airmen (NOTAM) formally published by the Airspace Control Authority (ACA) (normally the Joint/Combined Forces Air Component Commander (JFACC/CFACC)). This restricts the topic to post major combat operations when the JFC has begun Phase IV operations.

Further, a few issues must be elaborated upon in order to better frame the construct of this paper. While the focus will be Phase IV operations, the basic premise will be the safe and orderly transition back to host nation civilian control of the National Air Space (NAS) and its own organic ATC functions. This distinction is necessary to elaborate upon since it differs somewhat from Air Force Doctrine which states: "The ultimate goal of transition is to return the air traffic control system back to its pre-conflict state..."<sup>2</sup> Phase IV and Phase V

operations are referred to as described in Joint Publication 3-0, *Joint Operations*, currently in “revision final coordination” dated 23 December 2005 which delineates major operations having six Phases.<sup>3</sup>

Finally, recent events in both Iraq and Afghanistan serve as models to use when reviewing ATC capabilities/operations in Phase IV. These two situations will be used in this paper solely to provide examples of the critical nature and importance of safe and effective ATC transition during Phase IV operations.

## **BACKGROUND**

One need go no further than the current headlines and numerous news articles to see a reflection of the highly contentious, but critically important conduct of Phase IV operations: “The military was told not to worry about Phase IV.”<sup>4</sup> From Iraq and Afghanistan headlines, to the newly-drafted of JP 3-0, along with the emphasis in Joint PME,<sup>5</sup> Phase IV operations are gaining attention in a variety of important circles. Despite President Bush’s early-presidency comments on discouraging a military role in nation building,<sup>6</sup> the winds of change appear to have shifted regarding the future of the military with respect to Phase IV operations leading to a successful Phase V outcome.

During post conflict operations it is critically important to properly address in a timely manner the most advanced transportation system that a normal nation state possesses: the NAS. It is imperative that a safe and effective ATC infrastructure be reestablished in order to begin the transition to normalized civil air operations within the host nation’s NAS. The military must choreograph the highly complex system of airways, navigational aids, and trained personnel necessary to orchestrate this system in order for transition to be successful. To begin the process of rebuilding requires a great deal of coordination that is typically

centralized in an Air Operations Center (AOC) with the JFACC (in his role as ACA) conducting operations in support of the JFC's objectives.<sup>7</sup> However, a somewhat diverse and highly specialized group of actors must come together to integrate the overall effort to provide for a successful Phase IV operation.

### **AIR TRAFFIC CONTROL / AIRSPACE SYSTEM**

While JP 3-52, *Joint Doctrine for Airspace Operations* discusses the territorial confines of the host nation under attack, consideration of much more than the sovereign borders is necessary in order to adequately support successful ATC operations in Phase IV. A macro view of the regional airspace structure must also be considered when advocating to the JFACC (and JFC) a viable plan to successfully hand back a nation's NAS. A country such as Iraq is bordered by six neighbors that are potentially impacted by its NAS (see attachment 2). The airspace system must be viewed both domestically (aircraft arriving and departing the country itself) and internationally (aircraft overflying the country or departing and arriving utilizing Iraqi airspace and that of neighboring countries).

“What important roles are military ATC facilities currently handling that must be transferred?” is just one example of a basic question to be asked in order to begin the process. For example, ATC personnel may be providing control to major airfields (e.g., Baghdad International Airport in Iraq) with personnel and equipment, as well as, supporting the enroute structure of a nation for military and civilian aircraft transitioning as arrivals, departures, and overflights.<sup>8</sup> These are examples of both terminal ATC operations and enroute ATC operations (respectively) that the military may find itself involved in once Phase IV operations are set to begin. This transition then is critical to the safety of military

and civilian air traffic. A mishap prior to or during transition to host nation control could have serious international repercussions.

Within the AOC's Combat Operations Division is a specialty team staffed by ATC personnel.<sup>9</sup> This team may find that a considerable number of issues need to be addressed and solutions developed prior to the hand over of control. One example is the restructuring of an airway system to provide safe ATC operations. Using Iraq as an example, the addition of an airway in the enroute<sup>10</sup> airway structure was required to enable the safe and orderly progress of civilian aircraft (attachment 2). Or conversely (e.g., Afghanistan), the team may be able to provide the ACA a viable plan with relatively little need to restore or enhance the enroute airways (attachment 3) in order to hand back to the sovereign state a basic yet safe and effective airspace system. However, this same NAS may require infrastructure restoration or enhancements to return to a minimum level of basic ATC services including the personnel and equipment necessary to continue operations.

The complexity of a modern NAS can be seen by comparing the upper airway system of Afghanistan (attachment 3) with the lower airway system (attachment 4) and the necessary personnel and equipment needed to support the aircraft traffic. While there are certainly workarounds such as visual flight rules (VFR) aircraft operations (limited by weather), and mobile navigational aids that can support the system during the transition (limited endurance),<sup>11</sup> these may or may not support the JFC's needs dependant upon how long the operation will last. Despite this, at some point the US military support must depart in compliance with operational commander-established timelines. Therefore, there must be at least a skeletal ATC system provided to the host nation, and it must be safe. It must also meet the minimum needs of the military and civilian air traffic flying within and beyond the



territorial borders. This may or may not be the architecture that existed pre-conflict.<sup>12</sup> An update to joint publications highlighting this would provide appropriate focus in this area.

Within the host nation a thorough analysis must be conducted to understand exactly what is left of the infrastructure following combat operations in order to know where to begin. The infrastructure to support the nation's NAS includes a wide variety of needs, but to keep it broad for the purposes of this paper, examples include ground-based navigational aids, terminal and enroute airways, major civilian airfields, vetted and professionally trained host nation ATC personnel, and communications capabilities to coordinate traffic among ATC agencies within the country and neighboring countries. The list may be lengthy, but is indeed necessary to confirm the status of each in order to safely and effectively transition through Phase IV and into Phase V operations.

Internationally, the host nation must be able to reintegrate back into the regional ATC system in order to accommodate international civil aviation. This may be as simple as returning to pre-war operations, or may require extensive evaluation and adjustments to enable a safe and efficient flow of aviation into and over the sovereign airspace. In either case, a thorough review of existing capabilities must be accomplished and a plan developed.

Iraq provides a good example in highlighting this level of effort. In evaluating the enroute airway structure, the CAOC found the airway structure constricted to one existing north-south route that would not support a safe and effective return to civilian operations. A parallel airway was developed and coordinated with the corresponding countries (Turkey and Kuwait) in order to facilitate international overflights.<sup>13</sup> In a simplistic sense the route was developed and coordinated with internal Ministry of Transportation (MoT) officials and the two neighboring countries. However, reality was that many organizations had to approve the

airway development, ensure its safety, provide notice of certification to the international aviation community, and evaluate its effectiveness (in most cases separate international entities). Many months worth of work and coordination for one airway structure change was required for its utilization.<sup>14</sup> It was an extremely time consuming effort; indicative of what may be required to fully satisfy host nation ATC requirements for Phase IV and Phase V operations in future similar situations.

It is imperative therefore that emphasis be placed on gathering the data and lessons learned during Operations Iraqi Freedom and Enduring Freedom in order to properly integrate interagency and doctrinal lessons for future ATC operations. Current and ongoing operations in both Iraq and Afghanistan provide a level of fidelity regarding ATC operations unparalleled in recent times. The two countries' NAS structures and needs are very different, thereby providing excellent examples of Phase IV requirements in any future major combat operation involving regime change. Data should be gathered, analysis conducted, lessons learned documented, and a review of potential doctrinal changes coordinated in order to ensure proper JP adjustments.

#### **JOINT PUBLICATIONS GUIDANCE IN PHASE IV**

JP 3-0 appears to provide vague doctrinal guidance regarding Phase IV operations for the ATC specialist to incorporate into operations.<sup>15</sup> For example, JP 3-52 provides guidance for ATC in considering the many and varied operations that may be encountered while on the road to war.<sup>16</sup> However, there is nothing to indicate what is required when extricating from a nation once Phase IV operations have commenced on the path to a successful Phase V handover. Logically then, concurrent attention must be afforded to appropriate JP products regarding successful transition of a host nation's NAS.

In fact, JP 3-52 gives no indication of the Phases of operation as detailed in JP 3-0. There is no mention of the Phases at all that would provide guideposts to airmen in “staying on the same page” as the rest of the military and interagency force. There is no logical flow to follow (so to speak) when trying to understand the JFCs or JFACC’s objectives with respect to a particular Phase.

While JP 3-52 mentions in a broad sense that consideration should be given to ATC civil and military users, it is done so in a sporadic manner (versus a methodical manner). The times in which the ATC system is mentioned are wholly different than the regime change scenario focused on in this paper. JP 3-52 mentions ATC operations once in a section on Military Operations Other than War, once while “on the road” to war, and then again in a section on developing the Airspace Control Plan.<sup>17</sup> However, in a general sense the guidance provides little effective doctrinal instruction of utility to the ATC specialist when advocating a viable plan to the operational commander (JFC), or in a manner to be included in the airspace control plan (ACP).

The ACP is key to this Phase of operation and this is spelled out in JP 3-0:

**The JFC designates the ACA.** The JFC is ultimately responsible for airspace control in the operational area. The ACA coordinates and integrates the use of the airspace under the JFC’s authority. The ACA develops policies and procedures for airspace control and for the coordination required among units within the JOA. The ACA establishes an ACS that is responsive to the needs of the JFC, integrates ACS with the HN, and coordinates and deconflicts user requirements. **The airspace control plan (ACP) and airspace control order (ACO)** express how the airspace will be used to support mission accomplishment. The ACA develops the ACP, and, after JFC approval, distributes it throughout the JOA and to all supporting airspace users. The ACP begins with the distribution of the ACO, and is executed when components and users comply with the ACO...<sup>18</sup>

While JP 3-52 provides a great deal of information concerning airspace usage and does in fact discuss the need for a smooth transition from combat operations to peacetime operations, there appears to be no link in the doctrine to anticipate the phasing of operations that the JFC may direct. When a change from Phase III to Phase IV is announced, it should logically follow that doctrine (JP 3-52) should account for that in some way to alert AOC members that the ACP should be reviewed and adjusted accordingly to meet the JFC objectives. In other words, will the ACP in fact be the single source document accountable for Phase IV operations to show the JFC/JFACC? Again, this would prove useful in keeping all military members in step with Phased operations if detailed in some manner.

If there is to be a logical link for JP integration and synchronization, then a military member needs to reference the JP series for doctrinal guidance; but there is little flow or synchronization for the ATC specialist in developing a viable Phase IV airspace plan for the JFACC (in turn the JFC). JP 3-0 provides overarching guidance for what should be accomplished (transfer to the host nation), but JP 3-52 neither mentions the Phases, nor fully expands upon the requirements to be considered in each of the Phases. Furthermore, while doctrinal guidance does state that the ACP should consider ATC operations, the magnitude of this task and importance is left wanting since the Phases are not identified in the JP.

While recognition of this difficult aspect of integrating commercial traffic is highlighted in JP 3-30, *Command and Control for Joint Air Operations*, 5 June 2003,<sup>19</sup> the fact remains that a more detailed framework must be developed for the JFACC with a doctrinal focus on Phase IV operations. The vehicle provided may be the ACP, but this is not synchronized with higher level doctrinal guidance (JP 3-0) to properly align critical

Phase IV transition operations with Phase V--a crucial stage in host nation infrastructure enabling work.

Component air operations must adhere to the guidance provided by the airspace control plan (ACP), the airspace control order (ACO), the area air defense plan (AADP), and the special instructions (SPINS) located in the air tasking order (ATO) to assure deconfliction, minimize the risk of fratricide, and optimize the joint force capabilities in support of the JFC's objectives...Joint air operations may be integrated within an existing air structure, or one may have to be established by the joint force.<sup>20</sup>

This fundamental measure must not be overlooked. The thought process must be included up-front if the framework is to succeed in transitioning from Phase IV to even a most austere infrastructure that the host nation can assume in Phase V. Current guidance appears limited in this area and lacks fidelity regarding stability operations.

Ideally, a more robust doctrine would be included in the JP dealing with this aspect of Phase IV operations. Even the basic framework or mention of Phased operations in subordinate JPs would enable all services to “sing from the same sheet of music” when the JFC formally notifies subordinate commanders of Phase IV initiation. This allows all military organizations to understand the correct frame of reference when dealing with the airspace aspect of the host nation. This would also signal a paradigm shift in both coalition and host nation officials that positive steps were being made to effectively hand over a safe and effective airspace infrastructure to meet the needs of the country; even if rudimentary.

AFDD 2.1.7, *Airspace Control in the Combat Zone*, does in fact provide some guidance pertaining to transition from combat to peacetime.<sup>21</sup> And in fact states: “This document complements related discussion found in Joint Publication 3-30, *Command and Control for Joint Air Operations* and Joint Publication 3-52, *Joint Doctrine for Airspace Control in the Combat Zone*.”<sup>22</sup> However, it can be argued that this should in fact reference

Phased operations, or be added to JP guidance associated with the particular Phase of operation (i.e., Phase IV operations). Despite this, the fact remains that the USAF recognizes the importance of this operation; which may go a long way in the emphasis required to conduct successful Phase IV operations.

While Air Force Doctrine is critical in the success of any operation involving the JFACC and ACA, the JFACC may not always be a US Air Force officer. This appears to make the argument even more compelling since the framework must be spelled out in a joint publication applicable to all services for guidance.

A review of JP 3-52 doctrinal guidance regarding ATC system issues should be conducted in order to ensure proper emphasis is placed on the proposed Phased IV operations as detailed in JP 3-0. JP 3-52 should bridge JP 3-0 and AFDD 13-1AOC Volume 3, in order to align guidance and synchronize doctrine appropriate to the joint community.

## **ORGANIZATIONAL ISSUES AND CONSIDERATIONS**

Operations may be particularly difficult and time consuming when transitioning to Phase IV, but must still comply with the overall guidance from JP 3-0: “US military forces should be prepared to lead the activities necessary to accomplish these tasks when indigenous civil, US government, multinational or international capacity does not exist or is incapable of assuming responsibility. Once legitimate civil authority is prepared to conduct such tasks, US military forces may support such activities as required/ necessary.”<sup>23</sup> These two sentences are of key importance in the ATC community.

This follows directly from the current National Security Strategy:

**3. Post-Conflict Stabilization and Reconstruction.** Once peace has been restored, the hard work of post-conflict stabilization and reconstruction must begin. Military involvement may be necessary to stop a bloody conflict, but peace and stability will last only if follow-on efforts

to restore order and rebuild are successful...To develop these capabilities, the Administration established a new office in the Department of State, the Office of the Coordinator for Reconstruction and Stabilization, to plan and execute civilian stabilization and reconstruction efforts. The office draws on all agencies of the government and integrates its activities with our military's efforts.<sup>24</sup>

As Phase IV operations commence, there is a fairly large and potentially diverse group of organizations that must be consulted in order to provide the JFACC with a safe and viable military-to-civilian control transition plan. This depends a great deal on the level of destruction that was imposed upon the ATC infrastructure (e.g., radar and navigational aids destroyed; civilian airfields disabled, etc.) This could in fact reach beyond the Joint Interagency Coordination Group (JIACG) representation to include such specialists as Department of Transportation representatives from the FAA international office.<sup>25</sup> This agency could provide support on worldwide regulatory requirements, flight inspection needs, as well as, other specialized guidance as needed.

The International Civil Aviation Organization (ICAO) is another representative body that is critical to establishment of a properly functioning NAS. It provides numerous experts to support the international aviation system. Also, a number of other international agencies and regional representative bodies may need to approve aspects of the NAS, such as systemic changes to air routes and certification of navigational aids to appropriate standards. This process of coordination must be taken into account in order to formalize all procedures and infrastructure requirements. It should be placed in the ACP that is reviewed and approved by the ACA. But as previously mentioned, the ACP is found wanting with respect to clear delineation of Phases.

Key infrastructure certainly includes the personnel and equipment necessary to support the NAS for a particular country. It is in this Phase that USAF ATC must have clear

direction in joint publications in order to provide the JFACC with an established starting point, who can in-turn, ensure the JFC is fully aware of the JP guidance, as well as, the progress being made to hand over a functioning and operable airspace system.

To what level the national NAS is operable and functioning is critical to this process. This is where the JP must provide a general framework for the USAF ATC function without unduly restricting or forcing unobtainable responsibilities or tasks upon the ATC cell within the AOC, or the JFACC or JFC for that matter, when Phase V operations begin. Current general guidance is as follows (*italicized in original*):

*JFCs pursue attainment of the national strategic end state as sustained combat operations wane by conducting stability operations independently and/or in coordination with indigenous civil, US Government, and multinational organizations.*<sup>26</sup>

This excerpt is key to more formally establishing ATC roles and responsibilities during Phase IV operations. It is also important in envisioning the key organizations that must be coordinated with in order to safely and effectively transfer responsibilities completely to the indigenous government's MoT. Key contacts must be established within the Department of State (DoS) structure that will enable indigenous government coordination. This must be done in such a manner that ongoing coalition military aircraft operations are not restricted. In addition, it must be done so that ACA responsibilities are not infringed upon until such time as properly disestablished. There must be an established turnover date (JFACC/ACA) that is clearly understood and limitations briefed to JFACC/ACA if the indigenous government MoT is unable to assume responsibility or US military ATC restrictions limit this turnover in some respect.

The Joint ATC Operations environment imposed upon a NAS in prior Phases may be more focused on terminal operations than what is known as enroute functions. If major



coalition airfields are established inside the nation's borders, then ATC functions and coordination procedures are established to ensure military aircraft can safely arrive and depart the airfield to support their missions. However, if civilian airfields are subsumed by coalition forces, a situation may exist in which the military controls a key piece of NAS infrastructure that will eventually be returned to the host nation NAS (e.g. Baghdad International Airport (BIAP) and Kabul International Airport). These are capital city civilian airfields that require support and repair in order to reestablish their utility to the country, as well as, in the larger role of providing enroute capability for international airlines.

Organizations such as the host nation's MoT, and DoS as well as ICAO, may be required to reintegrate the host nation into the international aviation system. This then convolutes the coordination process in that a longer time is required to agree upon a course of action due to competing interests of various organizations. However, dependent upon the situation, the host nation is usually deferred to as the ultimate decision authority in order to ensure the proposed changes become institutionalized. There are times that ATC specialists within the AOC must be able to not only advocate for reestablishing international airways that connect the host nation country with its surrounding neighbors, but may have to establish completely new airways that must be agreed upon by the host country and the international aviation industry if it is to be a viable airway. There is certainly not much utility in a system if the international aviation community finds little use for the new airway. A very good example of this type of situation that the ATC specialists in the AOC might be called upon to develop is the north-south parallel corridor that is central to Iraq's new airway structure (as previously identified). The development and coordination in the international aviation community was crucial to placing the Iraq NAS back into the worldwide aviation system in a

much more viable manner than had previously existed (attachment 2). The new airway had to meet domestic and international aviation requirements, conform to critical navigation requirements, successfully pass a flight inspection, and be published in the Aeronautical Information Publication (AIP) for worldwide dissemination.

Another coordination aspect, both internal to the military and JIACG, as well as, with external international agencies, involves the publication of the AIP. This is a document, besides the NOTAMs, that must be reviewed and updated in Phase IV operations in order to ensure the civil aviation community understand the status of the host nation NAS. The AIP contains important information such as navigational aid status, frequencies to be utilized by aircraft, airfield information, and a great deal more detailed aviation related information that must be disseminated world-wide in order to conduct safe operations during this transition period. The Iraq and Afghanistan AIPs are two examples that may be used to model on this evolutionary process in transitioning from military centric operations towards normalized civilian aviation operations, with Afghanistan more closely resembling a fledgling NAS “on-the-mend” so-to-speak.

Therefore, a greater emphasis should be placed on the interagency process through the JP structure in order to ensure an effective plan is in place for NAS considerations once Phase IV operations are commenced. Interagency coordination is critical in the successful transfer of a country’s NAS back to the host country, with both its domestic and regional integration pieces meeting the minimum aviation safety standards.

## **CONCLUSION**

The sheer magnitude of transitioning a NAS under proposed Phase IV operations is an enormous challenge. An advanced transportation system such as the NAS requires an

advanced approach. As detailed in this paper, a great many considerations must be analyzed and known in order to safely and effectively undertake such an operations. A focus on placing a priority emphasis on Phase IV operations and updating joint publications in order to properly align doctrine is a logical place to begin such a tasking. This, along with focusing on the many interagency aspects that are necessary to facilitate such a transition, are critical in accomplishing Phase IV operations in the ATC community. A summary of these recommendations is provided at attachment 1.

The importance cannot be overstated because of the complex effort that must be undertaken. A mistake in this area can be catastrophic and raise potential international ridicule should a civilian airliner have a mishap during this transition. To borrow from Michele Flournoy in her lessons learned for Iraq and Afghanistan: “Lesson #6: Executing a smooth and seamless transition or handoff can make or break an operation... commitment of significant time and resources to help build the capacity of those who will receive the handoff...”<sup>27</sup> Stability operations are difficult and require considerable guidance, planning and coordination to make them a success; especially a country’s complex NAS.

Therefore, it is imperative that the AOC ATC Cell plan NAS transition operations from the very beginning, and continue to update the status of the host nations’ ATC capabilities. Once Phase IV operations are formally underway it is crucial that an analysis be conducted that will evaluate the host nation’s capabilities and procedures (airway structure, navigational aids, major civilian airfield status, infrastructure, and ATC workforce, publications—both domestic and international) that will determine required attention to bring it to a safe level in order to hand it over to the host nation.

There are numerous agencies and committees in the international aviation community that must be consulted in order to effectively transition a NAS back to normalized operations. Therefore, interagency coordination (DoS—embassy if established) must be effected with US officials responsible for the transportation system (e.g., DoT representative) so they are aware of the status and ongoing efforts to enable the military ATC system to begin civilian aircraft operations. This extends to the ability to hand this system over to a cadre of trained professionals who can conduct safe operations within their nation. In addition, the host nation MoT must be fully informed of the status of the organic ATC system and its ability to safely conduct civilian operations within the terrestrial boundaries of the sovereign nation.

With the multitude of questions that must be answered and coordinated amongst military and international agencies in order to properly transition Phase IV operations, it is imperative that immediate emphasis be placed on stability operations, updated joint publications, as well as, the need to effectively identify and coordinate with interagency organizations (most important of which would be a DoT representative) before the next major combat operation of this nature is undertaken.

## **Attachment 1**

### **RECOMMENDATIONS**

- 1) Elevate priority of Phase IV operations
  - a. Emphasize critical importance of this Phase within all joint publications
  - b. Ensure sustained focus remains on safe and effective transition to stability operations once major combat operations are complete
  - c. Determine structure of joint publications in referencing each of the Phases of Operations (Synchronization and cross-referencing)
- 2) Update JP 3-52, *Joint Doctrine for Airspace Operations*
  - a. Ensure consolidated guidance relates to a particular Phase where necessary/practicable (i.e., mention Phases to serve as guideposts)
  - b. Expand ACP guidance to emphasize need for detailed airspace infrastructure analysis at each Phase (i.e., eye on transition to stability ops)
- 3) Emphasize critical nature of interagency coordination in Phase IV Operations
  - a. Determine JIACG structure/makeup needed for Phase IV/V Operations
  - b. Ensure contact established and maintained during each Phase
  - c. Emphasize need for detailed analysis of airspace infrastructure throughout operations—not just as Phase IV and V approach
  - d. Consider DoT (in particular international FAA) representative on JIACG
- 4) Capture lessons learned now while both Iraq and Afghanistan are ongoing operations (emphasize Phase IV data gathering requirements)
  - a. Consider contracting independent study (Rand Corp)
  - b. Detail end product/doctrinal implications
  - c. Consider review of JIACG interaction/effectiveness

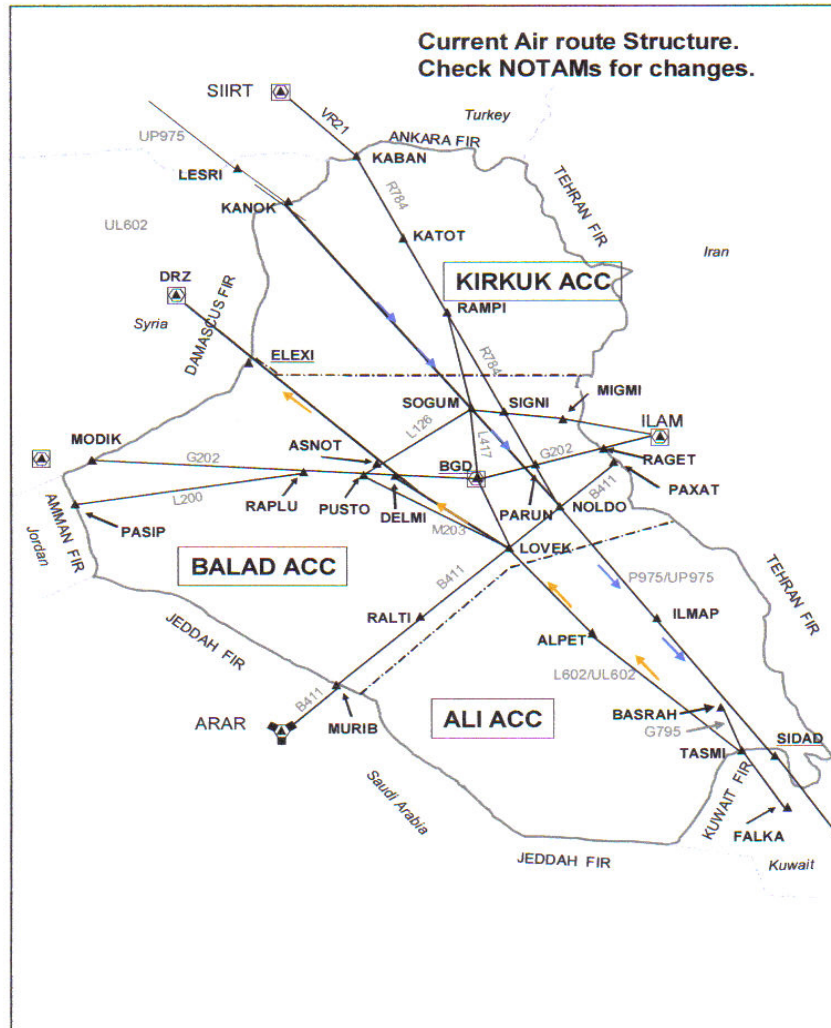
## Attachment 2

### IRAQ AIRSPACE DIAGRAM (IRAQ AIP)<sup>28</sup>

AIP  
IRAQ

ENR 3.3-5  
16 MAR 06

#### 3.3.2 Approved ATS routes and Entry/Exit Points for Baghdad FIR



Iraq Civil Aviation Authority

### Attachment 3

## AFGHANISTAN AIRSPACE DIAGRAM (AFGHANISTAN AIP)<sup>29</sup>

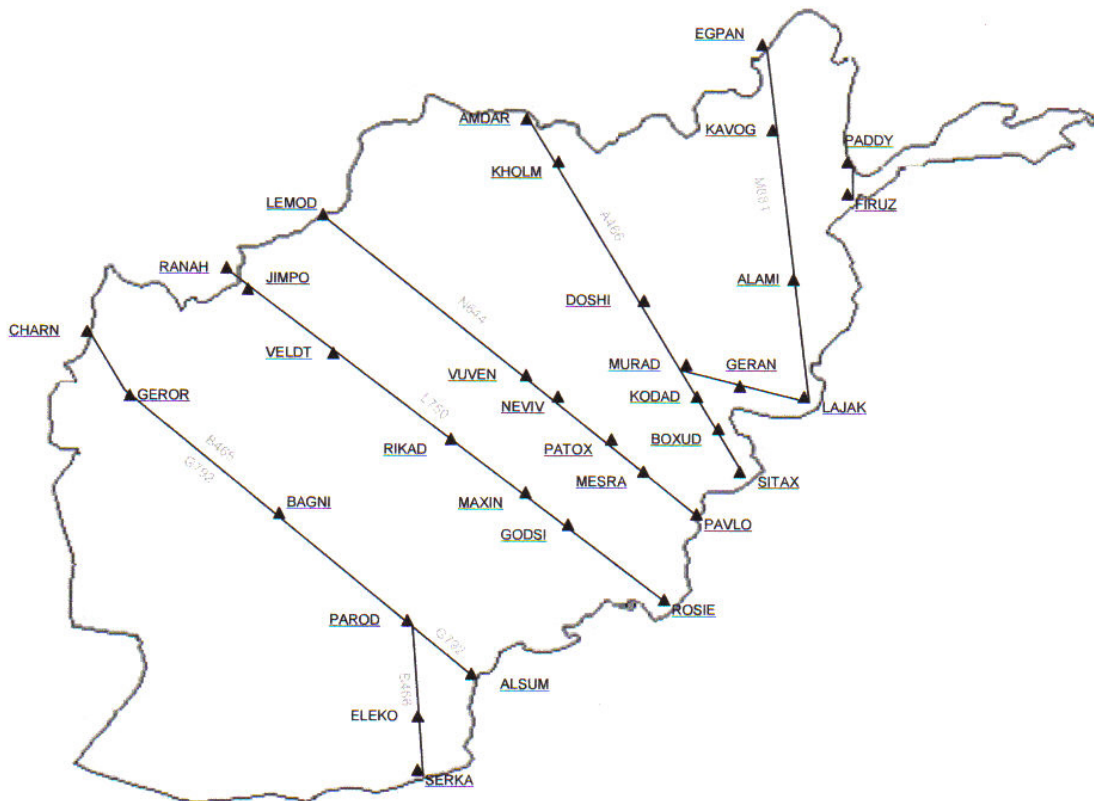
AIP  
Afghanistan

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### ENR 6 ENROUTE CHART - ICAO

#### ENR 6.1 Afghanistan High Level Enroute Chart

NOTE 1: N644 and M881 useable only by HF equipped aircraft.



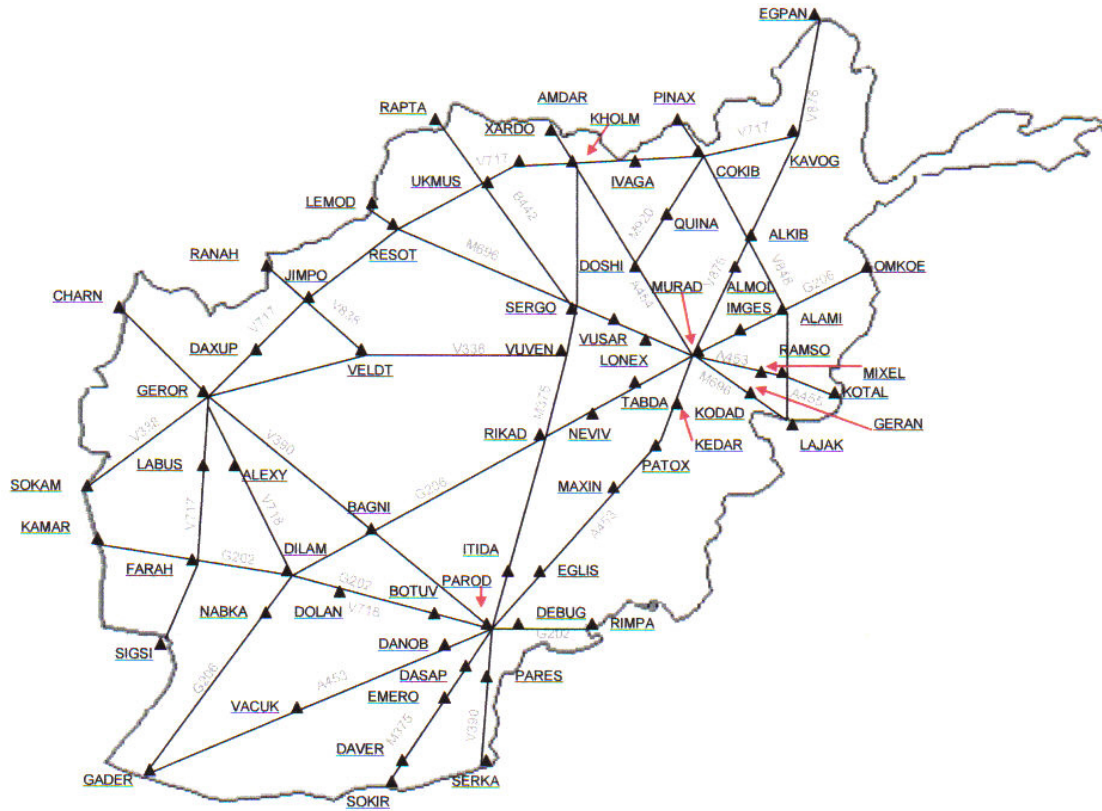
## **Attachment 4**

AFGHANISTAN AIRSPACE DIAGRAM (AFGHANISTAN AIP)<sup>30</sup>

## AIP Afghanistan

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## ENR 6.2 Afghanistan Low Level Enroute Chart





## **Endnotes**

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<sup>1</sup> Joint Publication (JP) 3-0, Joint Operations, Revision Final Coordination, 25 December 2005: IV 33-IV 34.

<sup>2</sup> Air Force Doctrine Document 2-1.7, Airspace Control In The Combat Zone, 13 July 2005: 22.

<sup>3</sup> Ibid.

<sup>4</sup> The Providence Journal, “Generals speak truth to Rumsfeld, 14 April 2006: editorial.

<sup>5</sup> Chairman of the Joint Chiefs of Staff, Letter dated 17 January 2006, “2006 Joint Professional Military Education (JPME) Special Areas of Emphasis (SAEs): 5.

<sup>6</sup> Boston Globe, “Once Against Nation-building, Bush Now Involved”, March 23, 2004, [http://www.boston.com/news/nation/articles/2004/03/02/once\\_against\\_nation\\_building\\_bush\\_now\\_involved/](http://www.boston.com/news/nation/articles/2004/03/02/once_against_nation_building_bush_now_involved/).

<sup>7</sup> Joint Publication 3-52, Joint Doctrine for Airspace Control in the Combat Zone, 30 August 2004: vii.

<sup>8</sup> Personal experience, Mar 04 deployment, Combined Air Operations Center, Air Traffic Control Cell.

<sup>9</sup> Air Force Instruction 13-1AOC Vol 3 Operational Procedures—Air and Space Operations Center, 1 August 2005: 61.

<sup>10</sup> Upper airway system typically utilized for overflight/international air traffic.

<sup>11</sup> Air Force News, “Air Traffic Controllers Responsible for One Third of Iraq Airspace,” 7 April 2006, <http://www.afnews.af.mil/iraq/tallil/040706-controllers-ali.htm>.

<sup>12</sup> AFDD 2-1.7: 22.

<sup>13</sup> Personal experience: Ibid.

<sup>14</sup> Ibid.

<sup>15</sup> JP 3-0: Ibid.

<sup>16</sup> JP 3-52: II-1.

<sup>17</sup> Ibid: A-1-A-3.

<sup>18</sup> JP 3-0: III-10.

<sup>19</sup> Joint Publication 3-30, Command and Control of Joint Air Operations, 5 June 2003: I-2 and I-3.

<sup>20</sup> JP 3-30: I-3, I-4.

<sup>21</sup> AFDD 2-1.7: Ibid.

<sup>22</sup> Ibid, Title Page.

<sup>23</sup> JP 3-0: xxiv.

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<sup>24</sup> George W. Bush, The National Security Strategy of the United States of America. Washington, DC: The White House, September 2002: 16.

<sup>25</sup> Aviation Week & Space Technology, Vol 161, Issue 21, “War on Terrorism Medal,” 29 November 2004: 13.

<sup>26</sup> JP 3-0: xxiv.

<sup>27</sup> Flournoy, Michele A., “Historical Lessons, Learned and Unlearned” SAIS “Nation Building: Beyond Afghanistan and Iraq” Conference, April 13, 2004, NWC 3073: 4.

<sup>28</sup> Iraq Aeronautical Information Publication, 16 March 2006: ENR 3.3-5.

<sup>29</sup> Republic of Afghanistan Aeronautical Information Publication, Eleventh Addition, 20 February 2006: 70.

<sup>30</sup> Ibid: 71.

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The Providence Journal, “Generals speak truth to Rumsfeld,” Editorial, 14 April 2006